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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,854	02/04/2002	James E. Cook	5087-000001	5141

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EXAMINER

HOWELL, DANIEL W

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 08/13/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,854

Applicant(s)

COOK ET AL.

Examiner

Daniel W. Howell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-23 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 12-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. Claims 1-6 and 12-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 12 have been amended to state that the target pressure is “determined independently from the operating characteristics of said pump.” The specification as originally filed seems to make no particular discussion of this point.

2. Claims 1-6 and 12-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1 and 12 have been amended to state that the target pressure is “determined independently from the operating characteristics of said pump.” The specification does not provide any discussion of exactly what this newly added section means. It is not clear from the specification what constitutes “independent of the operating characteristics of the system.”

3. Claims 1-6 and 12-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 12 have been amended to state that the target pressure is “determined independently from the operating characteristics of said pump.” It is not clear what constitutes “independent of the operating characteristics of the system.”

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 12, 13, 14, 15, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Antoun. Figures 1 and 4 of Antoun show a tool 100 and a line 103 to supply the tool with coolant. Pump 300 is powered by a motor 304. The pump receives coolant from reservoir 400 and pumps it through line 103 to the tool. Pressure transducer 401 measures the coolant pressure, and a signal corresponding to the measured pressure is sent to the computer controller 102 by control wires 402 (see column 4, lines 17-19). As described at column 3, lines 29-37, and column 4, lines 15-20, the pressure may be measured at the tool 100 itself or along line 103, and figure 4 shows wire 107 providing the pressure measurement to the controller 102. Column 4, lines 2-5, state, “The only critical relationship that the computer needs to be programmed with, however, is the frequency required to drive the pump at a speed **that results in the desired coolant pressure.**” This sentence makes clear that Antoun desired for the coolant to be applied to the workpiece at a **desired pressure** (this is the same thing as the “target pressure” in Applicants’ claims). While column 3, lines 47-51, discuss that the pump speed is adjusted depending on which valves are open, lines 2-5 of column 4 show that **a desired coolant pressure is selected** and that the pump is then controlled in a manner to provide that **desired coolant pressure**. Column 4, lines 40-51, state three times that Antoun has set a **desired coolant pressure** for a given tool which is being used, and the pump speed is changed to reach that **desired coolant pressure**. While lines 45-63 of column 3 do discuss how the motor speed is adjusted in order to provide the **desired coolant pressure**, this pressure is not determined

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based upon the operating characteristics of the pump. The wire 107 provides the closed loop control. Lines 61-64 of column 3 describe a linearly varying pump.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antoun.

Column 1, lines 62-67, of Antoun describe an AC pump motor and a variable frequency drive, but it does not explicitly state if the pump has a screw drive mechanism. Since the type of pump claimed is conventional, it would have been obvious to have used a screw drive pump to supply the coolant as it is well known to supply coolant with such a pump. As for the pressure at which the coolant is discharged, it would have been obvious to specify whatever pressure was desired, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

8. Claims 19-23 are allowed.

9. Claims 3 and 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first and second paragraphs, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. Applicant's arguments filed April 15, 2004, have been fully considered but they are not persuasive. Applicant has amended claims 1 and 12 to add the limitation that the target pressure

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is “determined independently from the operating characteristics of said pump,” but it is noted that the specification neither provides basis for this limitation, nor does it clearly explain what is meant by this limitation. Applicant’s arguments on this new limitation are quite brief, such that the argument is not clearly explained. Part of this argument is that the computer of Antoun is programmed with information concerning the cutting tool and that the control system regulates the speed of the coolant pump based on the total area of the **coolant tool orifices**. The examiner will certainly agree that the speed of the pump of Antoun is dependent on the total area of the coolant tool orifices. At column 4, lines 30-51, Antoun discusses that the drive frequency of the pump motor will need to be changed depending of the size of orifice C in the tool of figure 5. Applicants’ attention is drawn to pages 7 and 8 of their own specification, which discuss the use of three tools shown in figures 2-4, each having a different cross section of coolant orifice, which is the very same topic of column 4, lines 30-51, of Antoun. In fact, note Applicants’ sentences, “As mentioned earlier, given a certain volumetric flow rate, many factors play a role in defining the coolant pressure at the cutting tool to workpiece interface. For example, *the shape, size and location of the coolant path relative to the axis of rotation of the cutting tool affects the pressure generated*. Figures 2-4 depict only a few of the many cutting tools available having different coolant path geometries.” **Both Antoun and Applicants’ specification acknowledge that the shape of the coolant path affect the pressure.** Therefore, the point that Applicants are making that Antoun does not meet claims 1 and 12 because it somehow considers the shape of the coolant orifice is quite ambiguous and incorrect.

The examiner has pointed to numerous places in the specification which clearly show that Antoun sets a **desired coolant pressure**. This pressure is set based upon the particular

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machining requirements, that is, things such as the material being machined and the size of the hole to be made. While the speed of the motor of Antoun may need to be adjusted for various conditions in order to provide the desired coolant pressure, it is the machining requirements which determine that desired coolant pressure.

On page 8 of the arguments, Applicants make a very brief, passing comment about Antoun requiring a frequency to drive the pump at a speed which results in a desired coolant pressure. This is certainly correct, and Antoun discusses this point at column 3, lines 55-67, where Antoun discusses the RPMs of the motor. On page 8 of Applicants' specification, note the sentences, "Motor 24 begins to rotate and increase in rotational speed. As the RPM of the electric motor increases, the flow rate of coolant exiting fixed displacement pump 22 increases linearly." **It is clear that these two motor/pump sets (Applicants' and Antoun's) work in the same manner on this topic.**

11. Hyatt et al is cited to show the common use of a screw pump 108 to supply coolant.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning the content of this communication from the examiner should be directed to Daniel Howell, whose telephone number is 703-308-1728. The examiner's office hours are typically about 10 am until 6:30 pm, Monday through Friday. The examiner's supervisor, Andrea Wellington, may be reached at 703-308-2159.

Any inquiries concerning other than the content of this and previous communications, such as missing references or filed papers not acknowledged, should be directed to the Customer Service Center for Tech Center 3700 at 703-306-5648.

In order to reduce pendency and avoid potential delays, Group 3720 is encouraging FAXing of responses to Office actions directly into the Group at FAX number 703-872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Daniel Howell of Art Unit 3722 at the top of your cover sheet.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is 703-308-1148.



Daniel W. Howell
Primary Examiner
Art Unit 3722